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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,794	01/27/2004	Roger T. Simpson	BW-DKT02190A	2480
32175	7590	03/27/2006	EXAMINER	
BORGWARNER INC. 3850 HAMLIN ROAD AUBURN HILLS, MI 48326			ESHETE, ZELALEM	
			ART UNIT	PAPER NUMBER

3748

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/765,794		SIMPSON ET AL.	
	Examiner		Art Unit	
	Zelalem Eshete		3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/27/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Butterfield (5,657,725).

Regarding claim 1: Butterfield discloses a variable cam timing phaser for an internal combustion engine having at least one camshaft (see figures 4A,4B) comprising: a housing having an outer circumference for accepting drive force (see numeral 129); a rotor for connection to a camshaft coaxially located within the housing (see numeral 160), the housing and the rotor defining at least one vane separating a plurality of chambers (see numerals 131a,131b), at least one chamber being an advance chamber and another chamber being a retard chamber, the vane being capable of rotation to shift the relative angular position of the housing and the rotor (see figures 4A,4B); a spool valve comprising a spool having a plurality of lands slidably mounted within a bore in the rotor, the spool slidable from an advance position through a holding position to a retard position (see numeral 200b), and having an advance exhaust passage, a retard exhaust passage, and a return passage to route operating

fluid to the advance and retard chambers (see numerals 621,622,182) , wherein the advance exhaust passage and the retard exhaust passage are coupled to the return passage (see 621,622,182); and a recirculation check valve in the return passage oriented such that flow of the operating fluid flows only from the advance chamber through the advance exhaust passage and into the return passage when the spool is in the retard position and operating fluid flows only from retard chamber through the retard exhaust passage and into the return passage when the spool is in the advance position (see numerals 182a,182b).

Regarding claim 2: Butterfield discloses a supply of operating fluid having a check valve (see numerals 130a, 222).

Regarding claim 3: Butterfield discloses a supply passage coupled to the return line (see numeral 220).

Regarding claim 4: Smith discloses a supply passage coupled to inlet lines to the advance chamber and the retard chamber (see figure 4A, numeral 624; figure 4B, numeral 625).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 3748

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. (6,453,859).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1: Smith discloses a variable cam timing phaser for an internal combustion engine having at least one camshaft (see figures 8,9) comprising: a housing having an outer circumference for accepting drive force (see numeral 212); a rotor for connection to a camshaft coaxially located within the housing (see numeral 218), the housing and the rotor defining at least one vane separating a plurality of chambers (see numerals 224A,224R), at least one chamber being an advance chamber and another chamber being a retard chamber, the vane being capable of rotation to shift the relative angular position of the housing and the rotor (see figures 8,9); a spool valve comprising a spool having a plurality of lands slidably mounted within a bore in the rotor, the spool

Art Unit: 3748

slidable from an advance position through a holding position to a retard position (see numerals 290,296), and having an advance exhaust passage, a retard exhaust passage, and a return passage to route operating fluid to the advance and retard chambers (see numerals 266A,266B) , wherein the advance exhaust passage and the retard exhaust passage are coupled to the return passage (see figures 8,9); and a recirculation check valve in the return passage oriented such that flow of the operating fluid flows only from the advance chamber through the advance exhaust passage and into the return passage when the spool is in the retard position and operating fluid flows only from retard chamber through the retard exhaust passage and into the return passage when the spool is in the advance position (see figures 8,9).

Regarding claim 2: Smith discloses a supply of operating fluid having a check valve (see figure 8, numeral 230).

Regarding claim 3: Smith discloses a supply passage coupled to the return line (see figure 8, numeral 234).

Regarding claim 4: Smith discloses a supply passage coupled to inlet lines to the advance chamber and the retard chamber (see numerals 230,234,254,256).

Regarding claim 5: Smith discloses a check valve in each supply passage coupled to the inlet lines of the advance chamber and the retard chamber (see figures 2-7).

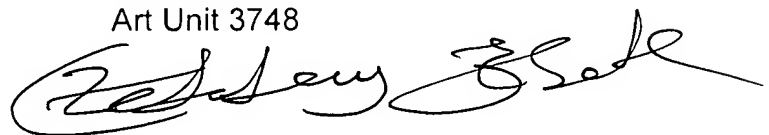
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (571) 272-4860. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zelalem Eshete
Examiner
Art Unit 3748



Thomas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700